

REMARKS/ARGUMENTS

I. Status of the Claims

Claims 1-10, 13-26, and 29-47 are pending. Claims 30-45 and 47 have been allowed. Claims 7-10 and 23-26 are objected to as depending from a rejected claim. Claims 1-6, 13-22, and 32 are rejected. Claims 11, 12, 27 and 28 have previously been canceled.

II. The Amendments Herein

The amendments herein add no new matter.

Claims 1 and 17 have been amended to recite that the food to which the glossy coating is to be applied does not have a peel or skin. The recitation is supported throughout the specification, including page 3, lines 13-14.

Claim 29 has been amended to delete a recitation objected to by the Examiner.

III. The Office Action

A. Rejection of Claims 1-6, 13-22, 29, and 46 as Obvious

The Action rejects claims 1-6, 13-22, 29, and 46 under 35 U.S.C. § 103(a) as obvious over Krochta, U.S. Patent 5,543,164 (the "Krochta '164 patent"), in view of Trezza, J. Food Sci 65(4):658 (2000) ("Trezza") and further in view of any of (a) Gilleland, U.S. Patent Nos. 6,528,088 ("the '088 patent"), 6,649,188 (the "188 patent"), or U.S. Published Application 2002/0142031 (collectively, these two patents and the published application will be referred to as the Gilleland references), (b) McKibben (IFT Abstract of March 1, 2001, or IFT Poster Presentation of June 13, 2002), or (c) Wiley Encyclopedia at page 398, lines 1-2 ("Wiley").

According to the Action, the Krochta '164 patent discloses a protein-based edible barrier that is made from whey protein isolate ("WPI") or soy protein isolate ("SPI") and contemplates use of a plasticizer such as sorbitol at 1 to 15%. The Action states that the protein may be used in either a denatured or an undenatured form. Action, at page 2. Lipid is also used. Trezza is relied on to show that edible coatings with WPI are known to have a gloss. Action, at

page 3. The Gilleland references, McKibben, and Wiley are relied on for teaching that mono- and di- saccharides are plasticizing agents for use in edible films. Gilleland and Wiley are also said to set forth an array of compounds that can be used as plasticizing agents. Thus, these references draw equivalence among plasticizers that include mono- and di-saccharides as well as the polyols sorbitol and glycerol. The Action concludes that it would have been obvious "to substitute mono- or di- saccharide . . . as an equivalent plasticizer in the edible film of Krochta." Action, at page 3. Applicants amend in part and traverse in part.

As the Applicants pointed out in their last Amendment, the films disclosed by the Krochta '164 patent recite the use of proteins treated, before or after application to a foodstuff, to induce the formation of disulfide bonds. The Krochta '164 patent therefore teaches only the use of denatured proteins. For example, the Krochta patent states: "The particular method to form the film is not critical, but will typically involve applying the denatured protein solution to a flat surface" *Id.*, at column 7, lines 16-18. Similarly, the methods of forming a water-insoluble protein-based edible coating in situ on a foodstuff comprise "subjecting the coated foodstuff to conditions suitable to induce disulfide bond rearrangements in the protein." *Id.*, at lines 41-42. Thus, the coatings are only of denatured proteins.

As noted above, the Action maintains that the Krochta patent teaches the "protein may be used in either a denatured or an undenatured form." Action, at page 2. Contrary to the premise of the rejection, however, the Krochta patent teaches that the protein is denatured, either before or after application, to form the edible coating. Native proteins would not impart the characteristics of water insolubility and the like the invention in that patent is intended to provide. Thus, the patent does not teach or suggest the use of undenatured proteins.

Since the Krochta '164 patent does not disclose coatings comprising undenatured proteins, it does not render obvious claims 1 or 17, which recite undenatured proteins. This deficiency is not made up by Trezza. In Trezza, the proteins were denatured prior to coating formation. See, Trezza, at page 2223, right hand column, bottom paragraph.

As noted above, the Action also states that the Gilleland, McKibben and Wiley references draw equivalence among plasticizers that include mono- and di-saccharides as well as the polyols sorbitol and glycerol. This equivalence further undercuts the rejection's premise. It

was thought that the denatured protein-glycerol coatings cast on plastic plates reported in Trezza would result in a gloss comparable to shellac when applied to a food. As reported in the specification, however, at page 5, lines 13-15, "Unfortunately, when actually tested on chocolate, glycerol-plasticized coating proved to have a relatively low gloss value and a rapid rate of gloss fade." Given the equivalence between glycerol and mono- and di-saccharides the Action indicates was taught by the Gilleland references, McKibben, and Wiley references, the cited references would have led the person of skill to have expected that substituting a mono- or di-saccharide for the glycerol used by Trezza would likewise result in coatings with a relatively low initial gloss value and a rapid rate of gloss fade when applied to foods without peels or skins. In combination with Trezza, they therefore would teach away from the present invention.

In contrast, when the coatings of the invention are applied to food without a peel or skin, they provide a gloss that has a high initial gloss value, and stabilizes at a relatively high value that lasts for extended periods compared to the glycerol-plasticized coatings taught by Trezza. See, specification, at page 5, lines 25-30.

Accordingly, Applicants respectfully maintain that claims 1-6, 13-22, 29, and 46 are free of the obviousness rejection. Reconsideration and withdrawal of the rejection are respectfully requested.

B. Rejection of Claim 29 as Indefinite

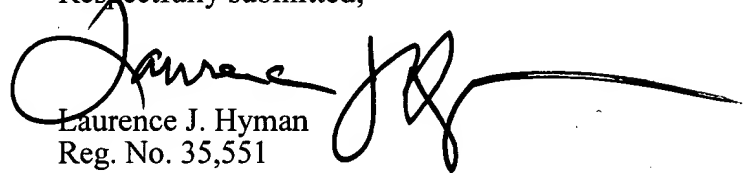
Claim 29 is rejected under 35 U.S.C. § 112, second paragraph, as indefinite. According to the Action, it is unclear how the terms "the combination" and "or both" are different. It was intended that the terms would cover mixtures of both denatured and non-denatured WPI or SPI, as well as mixtures in which both WPI and SPI are present. Upon further reflection, it is believed that the term "the combination" adequately conveys these mixtures and the term "or both" has been deleted.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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